AMENDMENTS TO THE CLAIMS

1. (Withdrawn) A method of filtering an optical signal, comprising:
receiving at least one input optical signal;
forming first and second optical signals using the at least one input optical signal;
modifying at least one portion of the first optical signal using a plurality of non-waveguiding electro-optic phase adjusters; and
forming an output optical signal by combining the first optical signal, including the at least one modified portion of the first optical signal, with the second optical signal.

2. (Withdrawn) The method of claim 1, wherein forming the first and second optical signals comprises forming the first and second optical signals using an optical coupler.

3. (Withdrawn) The method of claim 1, wherein forming the first and second optical signals comprises providing the first and second optical signals to first and second waveguides, respectively.

4. (Withdrawn) The method of claim 3, wherein providing the first and second optical signals to first and second waveguides, respectively, comprises providing the first and second optical signals to first and second waveguides having approximately equal optical path lengths.

5. (Withdrawn) The method of any of claims 1 to 4, wherein modifying the at least one portion of the first optical signal using the plurality of non-waveguiding electro-optic phase adjusters comprises demultiplexing the input optical signal using an optical demultiplexer.

6. (Withdrawn) The method of claim 5, wherein demultiplexing the input optical signal comprises demultiplexing the input optical signal into a plurality of wavelength bands.

7. (Withdrawn) The method of claim 5, wherein modifying the at least one portion of the first optical signal comprises providing the demultiplexed input optical signal to the plurality of non-waveguiding electro-optic phase adjusters.

8. (Withdrawn) The method of claim 7, wherein modifying the at least one portion of the first optical signal comprises introducing at least one phase shift to at least one portion of the demultiplexed input optical signal using at least one of the plurality of non-waveguiding electro-optic phase adjusters.

9. (Withdrawn) The method of claim 8, wherein modifying the at least one portion of the first optical signal comprises multiplexing the demultiplexed input optical signal, including the at least one modified portion of the first optical signal.

10. (Withdrawn) The method of any of claims 1 to 9, wherein forming the output optical signal comprises combining the first optical signal, including the at least one modified portion of the first optical signal, with the second optical signal using an optical coupler.

11. (Withdrawn) The method of claim 1, wherein modifying the at least one portion of the first optical signal using the plurality of non-waveguiding electro-optic phase adjusters comprises providing the at least one portion of the first optical signal to at least one of the plurality of non-waveguiding electro-optic phase adjusters and providing at least one reflected portion of the first optical signal to the at least one of the plurality of non-waveguiding electro-optic phase adjusters.

12. (Previously Presented) An apparatus, comprising:

a coupler for coupling an optical signal into a first arm and a second arm;

wherein the first arm includes:

an optical demultiplexer;

a plurality of non-waveguiding electro-optic phase adjusters optically coupled to the optical demultiplexer; and

a control unit coupled to the plurality of electro-optic phase adjusters[.];

further comprising:

a mirror; and

a quarter-wave plate coupled between the mirror and the electro-optic phase adjusters on the other side of the phase adjusters to the demultiplexer so that an optical signal passes from the

demultiplexer through the electro-optic phase adjusters, the quarter-wave plate and is then reflected back by the mirror through the quarter-wave plate, the electro-optic phase adjusters and the optical demultiplexer; and

the second arm includes a waveguide linking the coupler to the quarter wave plate for passing an optical signal in the second arm through the quarter wave plate to be reflected by the mirror back through the quarter wave plate and second arm to the coupler where the optical signals in the first and second arms are recombined.

13. (Original) The apparatus of claim 12, wherein the optical demultiplexer, the plurality of non-waveguiding electro-optic phase adjusters, and the control unit are formed on a planar waveguide platform.

14. (Original) The apparatus of claim 13, wherein the planar waveguide platform is at least one of a polymer, a silica-on-silicon, or a semiconductor waveguide platform.

15. (Original) The apparatus of claim 12, wherein each of the plurality of non-waveguiding electro-optic phase adjusters comprise:

a first optical transmission medium;

a second optical transmission medium;

a slot disposed adjacent to the first and second optical transmission media, the slot being adapted to receive an electro-optically active element; and

at least one electrode deployed proximate the slot, the at least one electrode being adapted to provide at least a portion of a variable electric field within the slot.

16. (Original) The apparatus of claim 15, wherein the slot has at least one curved edge.

17. (Original) The apparatus of claim 15, wherein the first optical transmission medium is a waveguide.

18. (Previously Presented) The apparatus of claim 15, wherein the second optical transmission medium is a waveguide.

19. (Previously Presented) The apparatus of claim 15, wherein the electro-optically active element is at least one of a liquid crystal and a polymer-dispersed liquid crystal.

20. (Previously Presented) The apparatus of claim 12, wherein the control unit is capable of providing at least one signal indicative of a desired phase change to at least one of the plurality of non-waveguiding electro-optic phase adjusters.

21. (Previously Presented) The apparatus of claim 12, wherein the optical demultiplexer is adapted to provide light in a plurality of selected frequency bands to a corresponding plurality of non-waveguiding electro-optic phase adjusters.

22. (Original) The apparatus of claim 21, wherein the optical multiplexer is adapted to receive light in the plurality of selected frequency bands from the corresponding plurality of non-waveguiding electro-optic phase adjusters.

23. (Previously Presented) The apparatus of claim 12, further comprising an optical multiplexer optically coupled to the plurality of electro-optic phase adjusters.

24. (Original) The apparatus of claim 23, wherein the optical multiplexer is adapted to combine the light received in the plurality of selected frequency bands.

25. (Original) The apparatus of claim 24, wherein the optical demultiplexer and the optical multiplexer are a single device.

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